LISTING OF CLAIMS

Claim 1 (Currently Amended): Digital transmission method with error-correcting coding, comprising, before a step of transmitting on a channel, a coding procedure for generating, from a source information item, a coded information item comprising at least one redundant information item and, after the step of transmitting on the channel, a decoding procedure for obtaining, from a received information item to be decoded an estimate of the source information item with correction of transmission errors based on the at least one redundant information item, the coding procedure comprising a plurality of elementary coding steps associated with a plurality of interleaving steps performed in parallel or in series, the decoding procedure being iterative and comprising, for each iteration, a plurality of elementary decoding steps which correspond to the said plurality of elementary coding steps, the elementary decoding steps ~~that are~~ associated with a plurality of ~~adapted interleaving and~~ de-interleaving steps corresponding to the interleaving steps, each of the elementary decoding steps generating at least one weighted output information item that is transmitted to one or more other elementary decoding steps, the method further comprising a characteristic quantity determination step for calculating at least one characteristic quantity from a set of the weighted output information items generated in at least one of the elementary decoding steps, the at least one characteristic quantity including a statistical function associated with the elementary decoding steps and a decoded information quality parameter determination step for determining, from the at least one characteristic quantity and at least one configuration parameter, a decoded information quality parameter associated with a set of decoded information items corresponding to the set of weighted output information items.

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Claim 2 (Previously Presented): Digital transmission method according to claim 1, wherein the decoded information quality parameter is used after the decoding procedure.

Claim 3 (Previously Presented): Digital transmission method according to claim 1, wherein the decoded information quality parameter is used during the decoding procedure.

Claim 4 (Previously Presented): Digital transmission method as in any one of the preceding claims, wherein each of the elementary decoding steps uses part of the received information, which corresponds to a redundant information item associated with the corresponding elementary coding step, for generating an output information item comprising an extrinsic information item transmitted to one or more other elementary decoding steps, at least one extrinsic information item obtained during one iteration being transmitted to another iteration, and the characteristic quantity determination step includes calculating the at least one characteristic quantity during an elementary decoding step from a set of extrinsic information items at the output of the said elementary decoding step.

Claim 5 (Canceled)

Claim 6 (Currently Amended): Digital transmission method according to claim 4, wherein the ~~characteristic quantity~~ statistical function is a mean of an absolute value of the extrinsic information calculated from the set of extrinsic information items.

Claim 7 (Currently Amended): Digital transmission method according to claim 4,

wherein the ~~characteristic quantity is a~~ statistical ~~quantity characterising~~ <u>function characterizes</u>

the set of extrinsic information items.

Claim 8 (Previously Presented): Digital transmission method according to Claim 1,

wherein the decoded information quality parameter determination step determines the decoded

information quality parameter from a characteristic quantity calculated in the characteristic

quantity determination step during an elementary decoding step from a set of weighted output

information items of the elementary decoding step and other characteristic quantities

calculated during previous elementary decoding steps from sets of weighted output

information items corresponding to the set of weighted output information items of the

elementary decoding step, and at least one configuration parameter, the said decoded

information quality parameter being associated with a set of decoded information items

corresponding to the set of weighted output information items of the elementary decoding step

Claim 9 (Previously Presented): Digital transmission method according to claim 8,

wherein the decoded information quality parameter determination step determines the decoded

information quality parameter from characteristic quantities calculated during an elementary

decoding step corresponding to the last elementary decoding step in the decoding procedure.

Claim 10 (Previously Presented): Digital transmission method according to claim 8,

wherein the decoded information quality parameter determination step determines the decoded

information quality parameter from a single characteristic quantity calculated during the last

elementary decoding step in the decoding procedure.

Claim 11 (Currently Amended): Digital transmission method according to Claim 1

wherein the decoded information quality parameter is includes an integer number representing

the probable number of errors which exist in the set of decoded information items.

Claim 12 (Currently Amended): Digital transmission method according to Claim 1,

wherein the decoded information quality parameter is includes a scalar used as a weighting

factor.

Claim 13 (Currently Amended): Digital transmission method according to Claim 1,

wherein the configuration parameter is includes a parameter characterising decoding

conditions.

Claim 14 (Currently Amended): Digital transmission method according to Claim 1,

wherein the configuration parameter is includes a parameter characterising transmission

conditions.

Claim 15 (Currently Amended): Digital transmission method of the error-correcting

coding type according to Claim 1, wherein the configuration parameter is includes a signal to

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noise ratio.

Claim 16 (Previously Presented): Digital transmission method according to Claim 1, wherein the decoded information quality parameter determination step uses a predetermined algorithm allowing calculation of the decoded information quality parameter as a function of the configuration parameters and one of more of the characteristic quantities.

Claim 17 (Previously Presented): Digital transmission method according to Claim 1, wherein the decoded information quality parameter determination step uses a predetermined reference table to select a decoded information quality parameter as a function of the configuration parameters and one of more of the said characteristic quantities.

Claim 18 (Previously Presented): Digital transmission method according to Claim 1, wherein the received information item is processed by means of N-bit decoding sequences to provide a set of decoded information items as a sequence of binary information items containing N symbols.

Claim 19 (Previously Presented): Digital transmission method according to Claim 1, wherein the received information item is processed by means of decoding sequences to provide a set of decoded information items as a sequence of binary information items representing a fraction of a decoding sequence.

Claim 20 (Previously Presented): Digital transmission method according to Claim 1, wherein the elementary decoding steps have inputs and outputs weighted in terms of probabilities, likelihood ratios, or log likelihood ratios.

Claim 21 (Previously Presented): Digital transmission method according to Claim 1, wherein the coding procedure comprises at least one puncturing step and the decoding procedure comprises at least one corresponding de-puncturing step.

Claim 22 (Previously Presented): Digital transmission method according to Claim 1, wherein in a combination of transmission methods using a number of decoding procedures associated with the same coding procedure, decoded information quality parameters obtained respectively at the end of each of the decoding procedures form weighting factors for the corresponding sets of decoded information items used to form a weighted combination of the sets.

Claim 23 (Previously Presented): Digital transmission method according to Claim 1, wherein in a transmission method further comprising a joint detection step, the decoded information quality parameter is used as a control parameter of the joint detection step.